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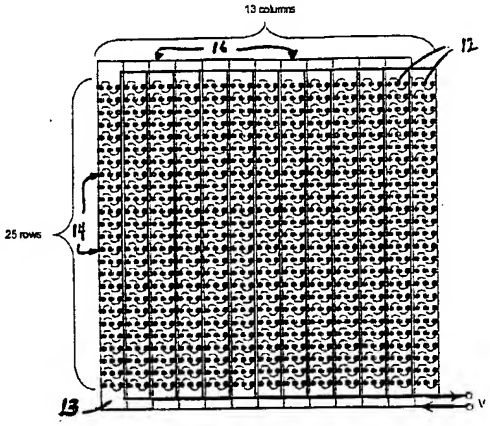
(54) Title: SERIES WIRING OF HIGHLY RELIABLE LIGHT SOURCES




(57) Abstract: The light array of this invention includes a number of columns and rows of LED's connected in a series/parallel combination. The series parallel combinations effectively optimize the impedance, accommodate failure rate, facilitate light mixing, provide a means of imbedding redundancy, and common cathodes or anodes. This arrangement provides a superior light source for consumer, industrial and specialty markets in respect to mean time between failure, process control, radiant intensity, wavelength mixing, power requirements and other characteristics of the light source. Each column includes a number of rows of plural LED's. The LED's in each row are wired in series and each column is wired in parallel so that if one LED fails only the LED's connected in series with the failed LED will also fail. There is redundancy in the circuit as well as the arrays so that if there are failures different current carrying elements or different series LEDS will automatically by powered on. The array may be connected in series with one or more LED arrays to form a module. Multiple modules may be connected in series with other multiple modules.

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